

no tile to be used should have a curve or bend of less than one quarter of an inch in the length of the tile, or be bedded and jointed otherwise than as described, tile-makers would soon find it to be to their advantage to make them of the required shape. The tiles are supposed in this statement to be 10 in. by 6 in.

Concerning the execution of ornamental tiling in lozenge or chequered patterns of various colours, which is now being used in some places, this is very liable to have some defects, but by a little previous care and attention they may be avoided.

The workman should commence the laying of the tiles at the hips and valleys, and continue along to the gables, where it may terminate as it happens, as it is of less importance to have the figures there incomplete than at the hips and valleys.

Where the work terminates at both ends by hips or valleys, the workman should ascertain, in the first place, whether the figures will come all in of their proper sizes or not: if not, then the borders at the terminations could be widened, or the one least exposed to view could be made narrower, so as to meet the requirements of the case; but on no account should it be left to turn out at random, as there will be as much difference in the effect of the work being finished properly or improperly, as there would be in the appearance of a garment made and fitted properly for the use of the wearer, and one made at random, having the nooks and corners cut off afterwards to fit it for the same purpose.

When the roof is of a high pitch, with any intersections, the tiles will require to be made longer or narrower, to suit the pitch, as the height of it, and, consequently, the angle of the intersecting line, regulates the shape of the figure of the tiling, which will be longer in proportion to its width, the higher the pitch of the roof may be; and as it is essential that each tile should have at least two inches lap, the difficulty will perhaps be easiest overcome by this expedient. The half-pitch roof will require a gauge of about $4\frac{1}{2}$ in., so that the common-sized tiles will answer the purpose for it.

A. PATERSON.

THEATRES AND SCENERY.

Her Majesty's Theatre.—"Il Prodigio," the *Enfant Prodigue* of Scribe, and the "Azael" of Drury-lane, has been produced here with a *mise en scène* (as the French call it) of extraordinary splendour and beauty. With pretty music, picturesque groups, gorgeously attired, filling the scene, and novel and exciting dances, it cannot fail to draw large houses. As an instance of rapid production it is very remarkable: one of the principal scenes in Memphis was begun and finished, we are told, on the day on which the opera was first represented. The costume of Massol, who, as Reuben, sings touchingly, is worthy of an artist.

The Royal Italian Opera House.—The revival of the favourite here has brought back some beautiful scenery to the stage of the Italian Opera House; for example, the vaulted Moorish loggia at the end of the first act and beginning of the second, decorated with mosaic work, and showing in the back ground gardens and residences. The last scene, the interior of a ruined monastery, is exquisitely beautiful in effect, though not without solecisms architecturally. Gissi, Mario, and Tamberlik have the chief parts in this opera, and sing them finely. The crowds now in London begin to tell in other places besides the park, and no where more than here. On Saturday in last week, when the Queen ordered *Don Giovanni*, every inch in the theatre was occupied.

The Lyceum Theatre.—The revival of Mr. Planche's smart little comedy, "The Court Beauties," with all its pristine elegance in costume and "getting up," was a *propos* of the Queen's ball. To those who appreciate close adherence to truth in time and circumstance, and refinement in every detail, it will afford a great treat. Mr. Charles Matthews seems to delight in the sparkling impudence of Buckingham, and emulates the character by his

consummate acting. The regal ease with which Mr. Vining assumes Charles II., the unctious of Mr. Roxby in the happy illustration of an empty-headed conceited courtier of the time, and the irresistibly comic humour of Mr. Frank Matthews, as old miserly Sir John Hunks, are admirable studies. As for the representatives of the "Beauties," they would have made old Sir Peter Lely stare, for we doubt if the originals were half so charming: great artistic pains and skill are evinced in their arrangement.

DRAIN-PIPES GLAZED AND UNGLAZED.

AT page 352 of THE BUILDER (Vol. IX.) I observe some remarks as to glazing drain-pipes for sanitary purposes.

I approve of the remarks that are made relative to the glaze not adding at all to their durability, as I have discovered in the course of my sewerage operations vast quantities of Roman and ancient British pottery, the unglazed being quite as sound and good as the glazed after being buried beneath the surface of the ground, even in damp and wet situations, for at least fourteen centuries.

In some portions of the Roman pottery (Samian ware) that I have found, the glaze is chipped off in places, and the Roman drain-pipes or tiles are not glazed at all. Mr. Austin, in his evidence before the Metropolitan Sanitary Commission (page 126 of report), says:—"The drain-pipes of ancient Rome are at the present day perfect, although of far inferior material to the vitrified glazed stone ware now manufactured in this country" (which I very much doubt).

"At the ruins of Trajan's bath," (erected A.D. 110), "near Civita Vecchia, I recently examined some of these pipes, which are still perfect," a strong argument of their durability even without the glaze so strongly insisted on by some parties.

I think if the manufacturers, instead of paying so much attention to glazing their pipes, would endeavour to perfect them in quality of material, strength, shape, and uniformity, and burn them well,—in fact turn out a perfect article, which, I am sorry to say, is not generally the case,—a greater benefit would be conferred upon the public.

If the manufacturers burned a perfect article, correct in contour, perfectly straight, and made it to fit truly at the joints, we should hear little of the "cuckoo cry" of glazed pipes, because we should have conduits quite as smooth as the interior surface of iron pipes, and capable of discharging as much fluid, and all that would be required would be care in laying them so as to give them a sufficient inclination to discharge the sewage.

I believe the introduction of glazed pipes, like the modern plan of flushing sewers, to be nothing more than a weak attempt to support a "rotten" system of town drainage.

BAYLIS.

DISCOVERY OF A CRYPT UNDER DEANERY HOUSE, WATERFORD.

AT a meeting of the Kilkenny Archaeological Society, held on the 7th, the Dean of Waterford made a communication on the above, from which we take the following. It was always known, the Dean said, that a large vault existed beneath the Deanery House at Waterford; but it was never explored, nor was it known how far it extended. On coming to reside here, I found this an object of interest to the antiquary, and proceeded to explore and re-open the Crypt.

At the commencement, we found the end of the Crypt filled with rubbish, so that no more than two-thirds of its entire extent was visible, and all was darkness, no ray of light being admitted into it. On removing some of the rubbish, there was discovered at the extreme end (the south), a pointed-arch doorway, and on proceeding with the work, this was found to lead to a spiral stair. Proceeding up these stairs, we found ourselves in an apartment adjoining the coach-house, the entire staircase having been filled up with rubbish, and part of the offices built over it (the present Deanery, &c., was erected about

150 years since). Having removed the building, the staircase was made to open into the garden. This was evidently the stair of a round tower, leading to the upper story of the ancient buildings.

The whole length of this crypt is 60 feet—the breadth, which is uniform, 19 feet. The arch of the vault is a semicircle, and the whole is supported, and divided into two equal aisles, by "massive arches, broad and round," springing from

"Ponderous columns short and low;"

evinced the character of the original building, when, like that of Lindsafarne, "In Saxon strength the abbey frown'd."

The counter arches are semicircular, springing from pillars, square but chamfered at the corners. Of these pillars there are five distinct, and two pilasters, forming six arches, running from north to south. The height of the crown of the arch is 11 feet; that of the pillars 6 feet 2 inches; the distance between the pillars $8\frac{1}{2}$ feet. The entrance at the east side is $5\frac{1}{2}$ feet wide. From floor to threshold of this entrance are five steps of 9-inch risers; and from thence to the original level are five steps more.

The spiral stair at south end is $8\frac{1}{2}$ feet in diameter, and consists of twenty-one winding steps of 6-inch risers. The pointed door-arch at foot of stairs is 7 feet to the point of arch. The window of stairs is 3 feet below the present exterior level.

The greater part of the pillars and the entire of the pointed door-arch are built of a white soft stone, which I believe to be Caen stone: the rest is of native limestone, beneath the outer surface, at the west side,—some at the end of the east side. It is probable that the crypt extended further, but was cut off to erect the deanery at one end, and the Town Hall at the other.

A second vault, hitherto used as a coal cellar, extends from the northern end of the crypt above described—which is curious, as containing in the roof large quantities of the *hurdle*, used for the centring of the arch in the original building of the edifice. In a brick partition dividing off a wine cellar in this vault, I found, built up and plastered over as part of the partition, a finely carved piece of oak, apparently part of an altar-screen, measuring seven feet by twenty inches—in good preservation.

Within 20 yards of the deanery are the ruins of a Franciscan Abbey, containing some fine lancet windows, and pointed arches, and several curious tombs of the 15th, 16th, and 17th centuries, and a fine mural monument. On several of these tombs are the four letters, I. M. R. A. The meaning of these I have not been able to learn. On one of the tombs representing the crucifixion, &c., is the sword used by Peter, and the right ear of the servant which he cut off. These were quite new to me.

INSCRIPTION ON A TABLET IN LIMERICK CATHEDRAL.—"Mementi Mory. Here lieth Little Samuel Barinton, that great Under Taker, of Famous Citty Clock and Chime Maker; He made his one Time goe Early and Latter, But now He is returned to God his Creator. The 19 of November Then He Scest, And for His Memory This Here is Pleast, By His Son Ben 1693." The correctness of this copy, in every respect, may be relied upon.—R. J. R.—*Notes and Queries*.

ROAD BRIDGES.—More than ever, I think, does the crowded state of our public thoroughfares at this moment show the necessity for the erection of light foot-bridges over the crossings of some of the most thronged streets, for the safety and convenience of the multitudes of foot passengers; and I have no doubt but that with the skill of our engineers, light structures, well adapted for the purpose, could be readily provided at a moderate cost. It would be well if an experimental one could be immediately erected on one of the principal routes for foot passengers to the great Exhibition; for example, from the Green-park to Hyde-park, across Piccadilly, where, from the width of the street, it could be done without at all interfering with the roadway for carriages.—W. C. TREVELYAN.